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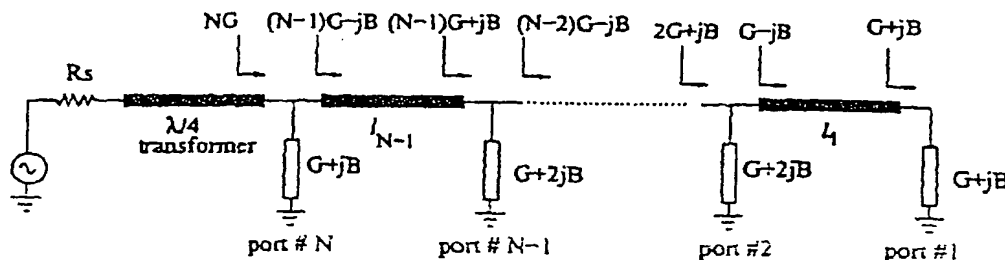
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(54) Title: **A PHASED ARRAY ANTENNA WITH EXTENDED RESONANCE POWER DIVIDER/PHASE SHIFTER CIRCUIT**



(57) Abstract: A phased array for generating a directed radiation pattern includes a plurality of power divider ports (port #N), a first tunable element connected in series between each pair of adjacent power divider ports, an antenna connected to each of the power divider ports, and a second tunable element connected in parallel with each antenna. The phased array can include equal phase differences between successive power divider ports, equal amplitude of the signal at each antenna, an equal amount of successive phase change in a signal at each antenna, a source connectible to at least one power divider port including an alternating power supply through a quarter-wave transformer, the first tunable element being either an inductor or a capacitor, the second tunable element being either an inductor or a capacitor, and/or each antenna separated by a successive antenna by a half wavelength.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/16008

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : H04M 11/00

US CL : 455/103,465 343/876, 874

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 455/103,465 343/876, 874

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
NONE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,115,463 A (MOLDAVSKY et al.) 19 May 1992 (19.05.1992), column 6, lines 36-61, column 5, line 5-column 6, line 13.	1, 17
Y	US 2001/0038318 A1 08 November 2001 (08.11.2001), figure 56, figure 95, figure 11A, page 38, column 2, lines 8-35.	4-16, 20-32

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

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15 November 2004 (15.11.2004)

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INTERNATIONAL SEARCH REPORT

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Continuation of B. FIELDS SEARCHED Item 3:

East search: phased array antenna, radiation pattern, power divider port, capacitor, inductor, inverter, power supply, voltage supply.